State University of New York at Binghamton
Thomas J. Watson School of Engineering and Applied Science

BS in Industrial and Systems Engineering-Four-Year Program

Application Code: 1367
If undecided use: 0229

FALL 2015

ENGINEERING DESIGN DIVISION

(The freshman year is common to all engineering majors)

Fall	Spring
Math 224/225 Calculus I (M)	Math 226/227 Calculus II (Calc I)
One Chemistry or Biology course	PHYS 131 General Physics I
WTSN 111 Intro to Engineering Design	WTSN 112 Intro to Engineering Analysis (WTSN 111)
WTSN 103 Engineering Communications I	WTSN 104 Engineering Communications II (WTSN 103)
General Education Elective (G, P, A, N, H)	General Education Elective (G, P, A, N, H)
Body/Wellness (Y, S, B)	Body/Wellness (Y, S, B)

Note: the GenEd "J" Designation is earned after successful completion of WTSN 111, 112, 103, 104

Final three years of Industrial and Systems Engineering Major

Year 2

Fall		Spring	
Math 324	Ordinary Diff Equations (Calc II, Phys I)	Math 304	Linear Algebra (4) (Calc I)
or		ISE 212	Engineering Computing (4)
Math 323	Calculus III (4)	ISE 261	Probabilistic Systems I (4)
PHYS 132	General Physics II (4) (Phys I, Calc II)	ISE 211	Engineering Economics (4)
ME 273	Statics (3) (Phys I, Calc II)		
ISE 231	Human Factors (4) (Calc II)		
ISE 295	Seminar Course (1)		
	Total 16		**Total 16**

Year 3

Fall		Spring	
ISE 311	Enterprise Systems (4) (ISE 211)	ISE 320	Optimiz & Operation Research I (4) (Math 304)
ISE 362	Probabilistic Systems II & DOE (4) (ISE 261)	ISE 363	Quality Engineering (4) (ISE 362)
ISE 370	Industrial Automation (4)	ISE 391	Systems Engineering Design (4)
ISE 314	Computer Program for Engineers (4)	ISE 321	Modeling and Simulation (4) (ISE 362)
	Total 16		**Total 16**

Year 4

Fall		Spring	
ISE 420	Optimiz & Operation Res II (4) (ISE 320)	Technical Elective (ISE, ME, EECE, CS, BE) (3)	
ISE 492	Systems Design Project (4) (ISE 391)	Technical Elective (ISE, ME, EECE, CS, BE) (3)	
Technical Elective (ISE, ME, EECE, CS, BE) (3)		General Education Elective (G, P, A, N, H) (4)	
General Education Elective (G, P, A, N, H) (4)		General Education Elective (G, P, A, N, H) (4)	
	Total 15		**Total 14**

Industrial and Systems Engineering (ISE)

We live in a complex society, but in the Systems Science and Industrial Engineering Department, we are doing our best to make it less complicated. We study complex systems and look for simplifying solutions. We work across all environments and fields of study including manufacturing, management, service industries, healthcare systems, and others. So, our time could be spent at a hospital developing ways to decrease wait times in emergency rooms, or you might find us in a manufacturing facility working on quality assurance issues or consulting at amusement parks, and beyond.

We have structured our BS ISE program so students will accomplish the following within a few years of graduation:

1. designing, developing, and managing both deterministic and nondeterministic complex processes and systems involving people, information, equipment, and financial and material assets, with special emphasis on using probabilistic methods, design of experiments, and simulation.
2. joining and contributing to industrial, government, and service organizations, and to operate effectively with a high level of professional and ethical standards.
3. independent learning, acquiring professional certifications and/or advanced degrees in reputable graduate schools in manufacturing, service, and enterprise systems.
4. communicating and contributing effectively in a diverse team environment.

The Bachelor of Science program in Industrial and Systems Engineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

The faculty members are committed to providing the students with an outstanding academic experience. Our curriculum also provides excellent preparation for graduate studies. For qualified undergraduates, we offer several combined-degree (accelerated five-year) programs that can lead to both a BS degree in ISE and an MS degree in either Industrial and Systems Engineering (MS ISE), Systems Science (MS SS), or Master of Business Administration (MBA).

For more information, visit: http://www.ssie.binghamton.edu